

Appl. No. 09/662,409  
Amd. Dated December 23, 2003  
Reply to Office Action of November 13, 2003

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (currently amended) A microfluidic device, comprising:  
a body structure having at least a first microscale channel disposed therein;  
a capillary element having first and second ends and a capillary channel disposed  
therethrough, the first end of the capillary element being attached to the body structure whereby  
the capillary channel is in fluid communication with the at least first microscale channel; and  
a conductive layer deposited on at least a portion of a surface of the capillary  
element, the conductive layer extending from a point proximal to the first end of the capillary  
element up to the second end of the capillary element  
~~The microfluidic device of claim 2, wherein~~  
the capillary element is attached to the body structure by the first end being inserted into an aperture in the body structure.

6. (previously presented) The microfluidic device of claim 5, wherein the conductive layer is deposited along a portion of a length of the capillary element that extends to a point proximal to but not up to the first end of the capillary element.

7. (currently amended) A microfluidic device, comprising:

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a body structure having at least a first microscale channel disposed therein;  
a capillary element having first and second ends and a capillary channel disposed  
therethrough, the first end of the capillary element being attached to the body structure whereby  
the capillary channel is in fluid communication with the at least first microscale channel; and  
a conductive layer deposited on at least a portion of a surface of the capillary  
element, the conductive layer extending from a point proximal to the first end of the capillary  
element up to the second end of the capillary element. ~~The microfluidic device of claim 2, wherein~~  
the capillary element is substantially rectangular.

8. (cancelled)

9. (cancelled)